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U.S. Environmental Protection Agency
Madison County Mines OU5 RD
Project Plan

B&V Project No. 44799
B&V File E.2
September 25, 2013

Mr. Anthony LaMaster
Contracting Officer
U.S. Environmental Protection Agency
11201 Renner Blvd.
Lenexa, Kansas 66219

Subject: Final Project Plan for Task Order 0126,
Madison County Mines OU5 RD

Dear Mr. LaMaster:

Please find enclosed one copy of Volumes 1 and 2 of the final Project Plan for Task Order 0126, Madison County Mines OU5 Remedial Design in Madison County, Missouri.

If you have any questions, please call me at 913-458-6605.

Very truly yours,

BLACK & VEATCH Special Projects Corp.

H. David Sanders
Site Manager

Enclosure

cc: Jim Seiler, USEPA, w/enclosure
Dan Kellerman, USEPA w/enclosure

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Superfund

OU05

Prepared for:
U.S. Environmental Protection Agency
Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

FINAL PROJECT PLAN
VOLUME 1 - TECHNICAL APPROACH
REMEDIAL DESIGN

Madison County Mines OU5 Site
Madison County, Missouri

September 25, 2013

EPA Contract No.: EP-S7-05-06
EPA Task Order No.: 0126
BVSPC Project No.: 044799

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ENERGY WATER INFORMATION GOVERNMENT

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1.0 Introduction

Black & Veatch Special Projects Corp. (BVSPC), under an Architect/Engineering Services (AES) contract has been tasked to perform work relating to the remedial design and related support to the U.S. Environmental Protection Agency (EPA) Region 7 at the Madison County Mines OU5 (Catherine and Skaggs) Site in Madison County, Missouri.

Activities set forth in this Project Plan will be carried out under EPA Contract No. EP-S7-05-06, Task Order No. 0126. This Project Plan describes the tasks that the project team will perform in providing technical and administrative assistance to the EPA for the activities listed in the Statement of Work (SOW). This Project Plan also presents a schedule of deliverables along with the projected costs associated with each task.

BVSPC's efforts and obligations under this task order are for the benefit of the EPA. The Potentially Responsible Parties, their employees, contractors, or any other persons or entities are not third-party beneficiaries of this work assignment.

1.1 Site Location and Background

A brief description and history of the Madison County Mines OU5 Site is included in the EPA's SOW for this task order. A copy of the SOW is included in Appendix A.

1.2 Purpose and Scope of Work

The purpose of this task order is to implement the Remedial Design (RD) for the remedy set forth in the Record of Decision issued by the EPA on September 29, 2012 for the Madison County Mines OU5. The RD will include the Catherine Subsite (approximately 10.9 acres), including a 3.5 acre pond on the Catherine Subsite; the flood plain soils from approximately 500 feet of the Logtown Branch intermittent stream; the Skaggs Subsite (approximately 12.2 acres), the flood plain soils from approximately 8,300 feet of the intermittent stream from the Skaggs Subsite to Plum Creek; the flood plain soils from approximately 2,000 feet of the intermittent stream east of the Skaggs Subsite, and the installation of eight groundwater monitoring wells in the vicinity of the site, and collecting groundwater, surface water, and sediment samples.

The specific actions to be implemented are specified in the Record of Decision (ROD) system may include:

- Excavate or grade mine waste, pond sediment (Skaggs Pond), tributary creek sediment as determined necessary, floodplain soils and transition soils to meet the respective cleanup levels. Sediments in the pond north of the Catherine Subsite will not be excavated.
- Consolidate mine waste in a common repository at each subsite.
- Grade and contour the repositories and construct drainage systems that will effectively control precipitation runoff to prevent erosion.
- Construct the cover or cap at each repository to consist of 12 inches of clay, 6 inches of topsoil and vegetation.
- Install a monitor well network consisting of a minimum of four wells at each subsite for groundwater sampling to monitor groundwater quality and hydraulic characteristics.
- Develop and implement a monitoring program for groundwater to ensure shallow groundwater is not migrating from the waste piles. The groundwater monitoring program will continue for a minimum of 5 years. BVSPC will collect one round of groundwater samples.
- Implement monitored natural recovery (MNR) by developing a monitoring program for sediment and surface water in tributaries and creeks downstream from OU5 CM&STS for a minimum of five years to evaluate the effect of natural processes in preventing downstream migration and to confirm MNR results in protectiveness of human and ecological exposure to contaminated sediments. In order to enhance the successful application of MNR, contaminated flood plain soils will be removed from the banks of the streams and consolidated under the caps as part of the remedial action. Sediments in the streambeds will not be excavated. Any remaining stream sediments of concern found during the monitoring period will be addressed under the OU7 – Watershed response action in the future.

The EPA SOW identified the following tasks from the work breakdown structure tasks for work assignment scoping, scheduling, and cost tracking purposes:

- Task 1 - Project Planning and Support.
- Task 2 – Community Relations.
- Task 3 – Field Investigation/Data Acquisition.
- Task 4 – Sample Analysis.
- Task 5 – Analytical Support and Data Validation.

- Task 6 – Data Evaluation.
- Task 7 – Treatability Study/Pilot Test Report. (Not Applicable)
- Task 8 – Preliminary Design.
- Task 9 – Equipment/Services/Utilities. (Not Applicable)
- Task 10 – Intermediate Design. (Not Applicable)
- Task 11 – Pre-Final/Final Design Package.
- Task 12 – Reuse Planning.
- Task 13 – Post remedial Design Support.
- Task 14 - Task Order Close Out.

A scoping meeting was held on August 15, 2013 via conference call and this Project Plan reflects the discussions in the scoping meeting. This Project Plan describes the work associated with each task and the assumptions used in developing the cost estimate. Because three tasks were noted as being "not applicable" in the SOW, they will not be discussed further in this work plan and will not be included in the cost estimate.

2.0 Technical Approach

This section of the Project Plan describes the technical approach to the tasks to be performed under the task order. Work descriptions, where appropriate, indicate the technical approach and assumptions that affect the estimated level of labor hours. The activities outlined in EPA's SOW have been incorporated into this Project Plan, and will be performed under the following tasks:

- Task 1 - Project Planning and Support
- Task 2 – Community Relations
- Task 3 – Field Investigation/Data Acquisition
- Task 3 - Data Evaluation
- Task 4 – Sample Analysis
- Task 5 – Analytical Support and Data Validation
- Task 6 – Data Evaluation
- Task 8 – Preliminary Design
- Task 11 – Pre-Final/Final Design Package
- Task 12 – Reuse Planning
- Task 13 – Post Remedial Design Support
- Task 14 – Task Order Close Out

These EPA task numbers correspond to BVSPC phase numbers and provide a manageable and efficient means of scoping, scheduling, and cost tracking task order activities. The task numbers will be used to account for both expended hours and associated costs for project activities. The cost estimates for each of these tasks are presented in Volume 2 of this Project Plan. Task Order milestone information is presented in Section 5.0. The hours and costs projected for this task order are presented in Volume 2. These tasks, as described in the SOW, will be performed under a BVSPC project number that will be assigned following EPA approval of the Project Plan.

2.1 Task 1 - Project Planning/Support

Project management activities are planning and control tasks that ensure all task order activities are performed accurately, efficiently, and on schedule. Qualified personnel with appropriate professional backgrounds will be assigned to perform project tasks. Figure 2-1 identifies the key task order team members and the project organization.

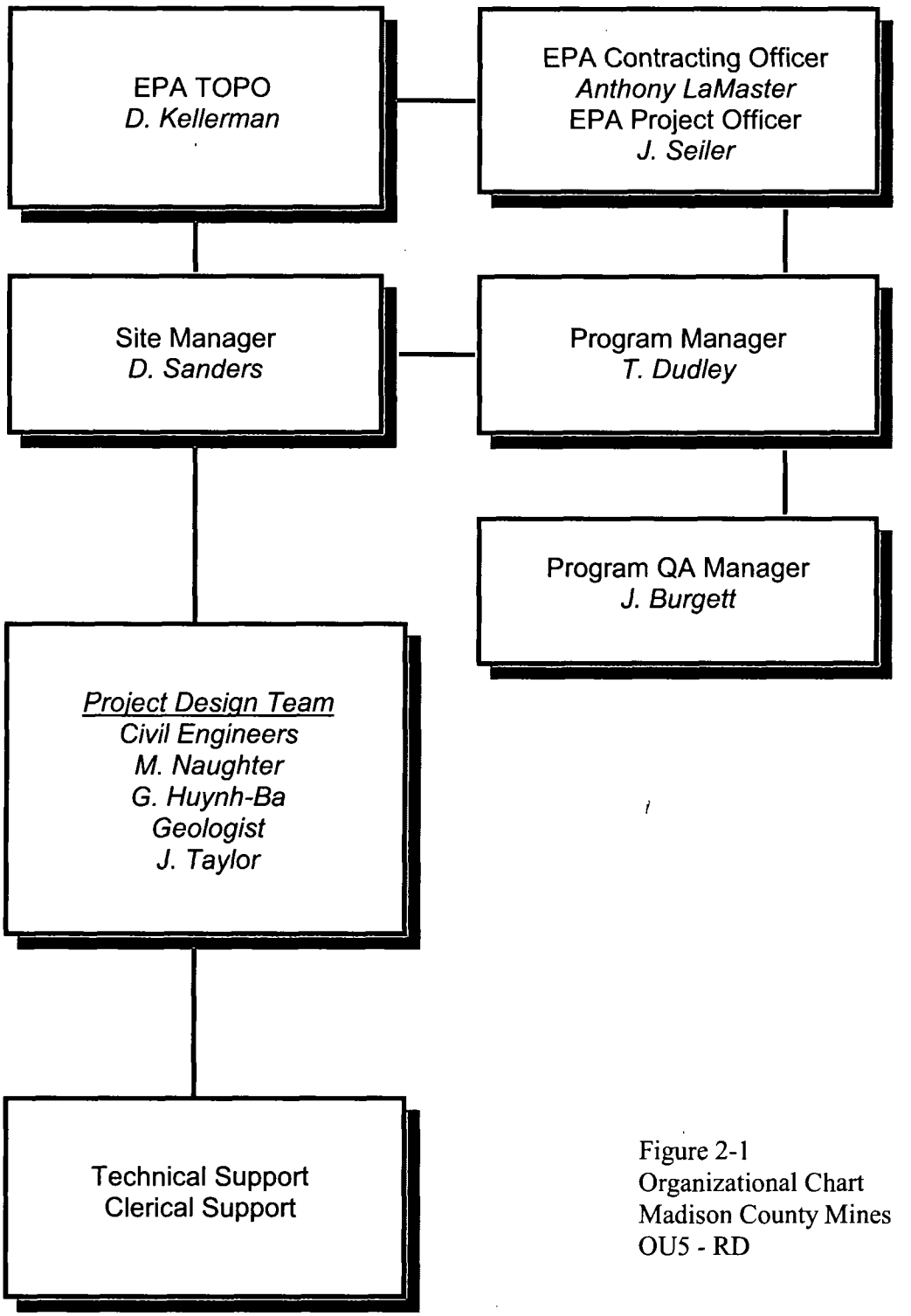


Figure 2-1
Organizational Chart
Madison County Mines
OU5 - RD

Although all reasonable efforts will again be made to maintain continuity of personnel throughout this task order, the assistance of technical specialists (e.g., engineers and scientists) is anticipated. The EPA task order project officer (TOPO) will be advised when assistance from technical specialists and changes to key project team are necessary to provide the services described in this plan.

The SM will maintain project control. The SM will be responsible for direction of the work, compliance with schedules and budgets, performance of project reviews, scheduling independent reviews, content and format of deliverables, and day-to-day monitoring of project staff. The SM is also responsible for providing EPA technical, financial, and schedule status reports on a monthly basis throughout the duration of the task order. The Project Engineer/Scientist, and others as appropriate, will assist the SM in these duties. The Project Engineer/Scientist will be responsible for day-to-day technical coordination of various task order activities.

The SM will discuss individual subtasks with the TOPO before and after each work event to facilitate consistent and thorough cost control. Informal accounting of hours and costs will be provided at the request of the TOPO for individual task events. If required, BVSPC can provide summaries of hours and costs in weekly intervals using a cost accounting and project tracking system.

Quality assurance and quality control (QA/QC) will be carried out in accordance with BVSPC's corporate QA plan (approved by EPA for AES task orders). Ultimate responsibility for QA/QC rests with the Site Manager (SM), although various QA/QC personnel will assist the SM. Specific information regarding QA/QC procedures is contained in Section 4.0 of this Project Plan.

Activities representative of the project planning efforts that will be performed under this task, for the duration of this task order, include the following:

- Attend scoping meeting(s) with EPA to discuss the task order.
- Perform a site visit.
- Develop and submit this Project Plan and participate in plan negotiations, as necessary.
- Attend necessary task order specific meetings.
- Provide a conflict of interest disclosure regarding the site.
- Evaluate existing data and documents, including usability, as directed by EPA.
- A Site Management Plan will not be required.
- Prepare a Field Sampling Plan (FSP) to address data collection along the intermittent streams and test pits using an X-ray fluorescence (XRF)

instrument; collection of surface water and sediment samples from the intermittent streams; and groundwater samples.

- Prepare a Quality Assurance Project Plan (QAPP) to address data collection along the intermittent streams and test pits using an XRF instrument; collection of surface water and sediment samples from the intermittent streams; and groundwater samples.
- Update the site specific Health & Safety Plan (HSP) to address installation of the test pits and groundwater monitoring wells; collection of groundwater samples; and collection of surface water and sediment samples.
- Prepare subcontracts, obtain bids, obtain EPA consent for the subcontracts, and execute the subcontracts for digging test pits and performing the topography survey, installing the groundwater monitoring wells, and surveying the monitoring wells.
- Prepare monthly progress and financial status reports.
- Participate in meetings, communicate with EPA routinely, and prepare meeting minutes.
- Assist EPA as required during any external audit or review.
- Review background documents as needed to support the RD. Anticipated documents and data expected to be collected and reviewed include:
  - -- Record of Decision.
  - -- Remedial Investigation.
  - -- Feasibility Study.
  - -- Proposed Plan.

Monthly progress reports will summarize the following information:

- Activities during the reporting period.
- Project schedule and progress.
- Problem areas and recommended solutions (including scheduling).
- Project deliverables submitted during the reporting period.
- Activities planned for the next reporting period by task.
- Key personnel changes on the project team.

Financial status reports will summarize the following information:

- Project professional hours and costs to date by task.

- Actual project professional hours and expenditures for the given reporting period.
- Estimated professional hours and costs to complete each task.

Scheduled status reports will summarize the following information:

- Project tasks with planned and actual start and completion dates.
- Planned and actual dates for milestones and submittals.

2.2 Task 2 – Community Relations

BVSPC will obtain signed access agreements from the property owners of the Catherine and Skaggs Subsites and the property owners along the intermittent streams. It is estimated there will be between six and twelve property owners where access will be obtained.

2.3 Task 3 – Field Investigation/Data Acquisition

The activities under this task include work efforts to collect environmental data to supplement previous studies to support RD activities. The following efforts will be performed to define contaminant levels, physical/chemical properties, and volume:

- All activities required for field event mobilization/demobilization.
- Assume that there are approximately 11,000 feet of intermittent streams that are located downstream of the Catherine and Skaggs chat areas. Assume that the sediment in the intermittent streams will not require remediation under this task order, but the contaminated flood plain soils will be remediated. Assume that in-situ XRF readings will be collected along the surface of the flood plains on each side of the intermittent streams to identify the horizontal extent of the contaminated soil. Assume that a shovel will be used to collect information on the depth of contaminated soil. A two person-team will take XRF readings at obvious sediment deposition areas, but at least every 250 feet. Assume this sampling would be performed in 3.5 days. Assume that the horizontal extent of surface soil contamination around the Catherine and Skaggs chat areas will be determined at the same time. Assume that 2 days will be required to delineate the horizontal extent of contaminated soil around the Catherine and Skaggs Subsites.
- A topographic survey of the 12.2 acre Skaggs Subsite and the 11,000 feet of intermittent streams will be performed.

- Surface soil and depth soil samples will be collected to confirm the extent of the Catherine and Skaggs chat areas. It is assumed that this RD package will encompass an area that is expected to have contaminant concentrations that exceed the action levels. The sampling will be used to confirm the extent of the remedial action. Sampling will be conducted using an XRF for real time analysis and global positioning system (GPS) to record locations. It is assumed that there are approximately 25 acres that will require test pits. Assume 2 pits will be installed. Approximately 50 test pits will be required. Assuming that the subcontractor can dig 15 test pits per day, 3.5 days will be required to install the test pits. For costing purposes, it is assumed that one 1-person team will complete the sampling effort with the assistance of a subcontractor to provide a backhoe for depth sampling.
- Assume that eight groundwater monitoring wells (4 at each subsite) will be installed. Assume that BVSPC will supply one person to provide oversight of the driller and prepare well logs of each well. Assume that BVSPC will sample each monitoring well one time for metals.
- BVSPC will sample the surface water and sediments in the three intermittent streams in the vicinity of the OU5 chat piles. Assume the samples will be analyzed for total metals. Assume biota samples will be collected and analyzed. Assume the streams will be sampled every 2,000 feet.
- It is assumed that characterization of the sediments in the small pond on the Skaggs Subsite will not be required. The pond may be drained during the remedial action and the sediments would be excavated at that time to the extent necessary to meet action levels.

2.4 Task 4 – Sample Analysis

All environmental samples will be analyzed by the EPA Region 7 laboratory. No geotechnical samples will be analyzed.

2.5 Task 5 – Analytical Support and Data Validation

BVSPC will prepare and submit Analytical Services Requests (ASRs) to the EPA Region 7 laboratory for the samples that are collected. BVSPC will prepare and ship environmental samples to the Region 7 laboratory in accordance with the FSP. BVSPC will review the data packages prepared by the EPA laboratory for usability for their intended purpose.

2.6 Task 6 – Data Evaluation

This task will involve work efforts related to the analysis of data for incorporation into the design effort. The results of the sampling activities will be compiled, reduced, and tabulated to allow for evaluation of the new data acquired during the field sampling activities described in Task 3.

The quality of data and its usability/limitations including and assessment of the precision, accuracy, and completeness as compared to the Data Quality Objectives of the project will be evaluated. One letter memorandum will be prepared that discusses the data from the groundwater sampling event and the surface water and sediment sampling event.

2.7 Task 8 – Preliminary Design

As discussed in the scoping meeting a preliminary design package will be submitted that includes 30 percent complete design drawings.

The overall design for the preliminary design package for the Madison County Mines OU5 Site will be based upon the following assumptions:

- The design will include separate drawings for the Catherine and Skaggs subsites and will include approximately 11,000 feet of intermittent streams. It is assumed that one design package will be prepared that includes both subsites.
- The design will be for excavation of contaminated mine wastes at each subsite and disposal in a repository at each subsite where the waste was excavated. The contaminated sediments in the Skaggs Pond will be excavated and disposed under the cap at the Skaggs Subsite. Contaminated flood plain soils will be excavated and disposed at each subsite where the contaminated soils were excavated.
- Remediation of the sediments in the intermittent streams will not be included in the remedial design.

The preliminary design package will include the following documents.

- A remedial design package will be prepared consisting of 30 percent drawings and a preliminary outline of the specifications.
- A construction schedule and project phasing will be prepared.
- A cost estimate (+50% to -30%) will be prepared.
- The design analysis/basis of design report will be prepared.

- Internal engineering QC check will be conducted on the preliminary design package to assure complete and correct documents.
- A briefing will be conducted for the EPA on the preliminary design.
- A review conference will be conducted to annotate EPA's and other agencies' comments.
- Land acquisition/easement requirements necessary to implement the remedy will be identified.
- The ARARs review will be updated.
- A value engineering study will be conducted to identify potential cost savings.

It is assumed that there are two mine waste sites that will require drawings. It is assumed that one drawing will be required for each intermittent stream. It is assumed that one design package will be prepared that will include both subsites. It is assumed there will be 18 design drawings and up to 15 specification sections in the design package. The proposed drawing list is provided in Table 2-1.

Table 2-1
Proposed Drawing List

Drawing Number	Title
	Cover Page
G-001	Vicinity & Location Map
G-002	Drawing Index, Legend, and Notes
C-001	Site Key Plan
C-002 to 003	Existing Conditions of mine waste piles
C-004 to 006	Existing Conditions of intermittent streams
C-007 to 008	Excavation Plans of mine waste piles
C-009 to 011	Excavation Plans of intermittent streams
C-012 to 013	Finish Grade Plans of mine waste piles
C-014 to 015	Erosion and Sediment Control Details
C-016 to 018	Finish Grade/ vegetation plantings in intermittent streams

2.8 Task 11 – Pre-Final/Final Design

The Pre-final/final design package will be prepared and submitted to EPA. The following activities will be included.

- Subcontract award documents will be developed.
- A remedial design package will be prepared consisting of drawings and preliminary specifications.
- The design analysis/basis of design report will be updated.

- A pre-final/final construction quality assurance plan will be prepared.
- A cost estimate (+15% to -10%) will be prepared.
- Internal engineering QC check will be conducted on the pre-final/final design package to assure complete and correct documents.
- A briefing will be conducted for the EPA on the pre-final/final design.
- A bidability, operability, constructability, claims prevention, and environmental compliance review will be conducted on the design package.
- The project delivery strategy will be updated.
- A 100 percent design package that will include the deliverables discussed in this section will be provided. A schedule of the overall remedial action will be prepared and submitted.

2.9 Task 12 – Reuse Planning

BVSPC will provide technical support to EPA by reviewing and evaluating reuse plans and redevelopment plans submitted by others to ensure long-term protectiveness of the remedy. Minimal effort is anticipated for this task.

2.10 Task 13 – Post Remedial Design Support

This task includes support to EPA as requested throughout the remedial action. Minimal effort is anticipated for this task.

2.11 Task 14 – Task Order Close Out

Activities required to close this task order shall include the following tasks:

- Documents will be returned to the EPA Superfund Record Center of the EPA TOPO, as directed by the EPA TOPO.
- File duplication, distribution, and storage will be provided as directed by the EPA TOPO and in accordance with the EPA's internal protocol to close out the contract file for the task order.

3.0 Safety and Contingency Plan

As with any project, problems and issues arise that must be resolved to complete project tasks in a timely manner. To counter such areas of concern, this contingency plan has been developed. Several specific issues have been listed to demonstrate how these issues will be addressed during the course of the work assignment. While this list is not all-inclusive of the problems or issues that may arise, it offers insight on how such areas of concern will be handled.

Potential Issue	Contingency Plan
Subtask elements of this task order that are not fully scoped at this time.	Commence work efforts and revise the Project Plan and cost estimates in a timely manner for negotiations with the EPA.
Changes in program functions.	Consult with EPA TOPO and BVSPC program personnel, as appropriate, and incorporate new guidance into project deliverables.
Data indicates unanticipated contamination.	Work with EPA TOPO to evaluate effects on RD activities.

4.0 Quality Control Measures

QA/QC measures related to the work activities conducted on this task order will be in accordance with the procedures defined in BVSPC's corporate QA Plan (approved by EPA for AES task orders). The corporate QA Plan defines the authority, responsibilities, and procedures for QA/QC. All major deliverables will be reviewed by quality assurance review team personnel assembled for each subtask of this task order. The comments of the review team will be incorporated into deliverables before submission to EPA. This procedure should expedite EPA's review of submittals by ensuring the technical quality of both draft and final deliverables.

BVSPC's AES Program QA/QC Manager will be responsible for the management and performance of internal review processes. She may also audit work performed in conjunction with this task order. The results of any audits performed on this task order will be submitted to BVSPC's AES Program Manager. The audit report will contain a brief description of the audit; identification of compliance status, problems, and non-conformances; and analysis of corrective action status if appropriate.

Ultimate responsibility for QA/QC rests with the SM, although various QA/QC personnel will assist the SM as discussed above. He will be responsible for verifying that the work meets the QA requirements associated with the task order and will initiate the project quality control reports and reviews. The SM, in conjunction with the Program QA Manager, will identify appropriate quality assurance review team personnel for the various deliverables to be submitted as part of this work effort.

QC personnel, as necessary, may consist of an independent reviewer and a flexible, multi-disciplinary review team able to provide input in their areas of specialization. When desired by the Program QA Manager, independent review of deliverables will be conducted to ensure they are accurate, easy to understand, and free of typographical and mathematical errors. Copies of all review records will be maintained in accordance with the BVSPC QA Plan by the SM. Review requirements for the deliverables associated with this work assignment are listed in Table 4-1. These requirements also comply with the BVSPC corporate QA Plan.

Table 4-1
Document Review Requirements

Document/Deliverable	Discipline Review	Project Review	Independent Review
Project Plan	O	R	R
Planning Documents	O	R	R
Technical Memoranda	O	R	R
Preliminary Drawing/Specifications	R	R	R
Preliminary RA Cost Estimate	O	R	O
Preliminary Construction Schedule Update	O	R	O
Preliminary Design Basis Report	R	R	R
Pre-Final/Final Drawing/Specifications	R	R	R
Pre-Final/Final RA Cost Estimate	R	R	R
Pre-Final/Final Construction Schedule Update	R	R	R
Pre-Final/Final Design Basis Report	R	R	R
Task Order Close Out Report	O	R	O
NOTE: O = Optional Review R = Required Review			

5.0 Project Milestones

5.1 Project Schedule

Table 5-1 lists the project "due dates" from the SOW. Submittal dates for items for which no specific submittal dates are listed will be determined when the task is assigned by EPA. The table lists the general time frame for submittal of these documents.

The schedule for the various deliverables meets the schedule criteria listed in the SOW and Table 5-1.

5.2 Project Deliverables

Specific project deliverables, along with the projected dates of submission or submission schedule, will be based on the criteria for deliverable due dates as listed in the SOW (see Appendix A) and Table 5-1.

The deliverable dates will be subject to adjustment based on the schedule and actual completion dates of preceding tasks and subtasks. The need for schedule adjustments will be addressed in monthly status reports or other communications with the EPA TOPO.

Table 5-1
Schedule of Deliverables

Deliverable	Due Date (days after TOPO directs contractor to produce deliverables)
Task Order Work Plan	Per Contract
Health & Safety Plan	30 days after EPA approval of Work Plan
Sampling and Analysis Plan/Field Sampling Plan	30 days after EPA approval of Work Plan
Quality Assurance Project Plan	30 days after EPA approval of Work Plan
Monthly Report	Monthly, Per Contract
Collection of Data Required for Design	October 31, 2013
Preliminary Design	January 31, 2014
Pre-Final/Final Design	March 31, 2014
Reuse Planning Deliverables	March 31, 2014
Task Order Close Out	December 31, 2014

6.0 Cost Estimate

The estimated task order costs are based on projected hours as shown in Volume 2 of this Project Plan. Volume 2 provides a detailed cost estimate by task and subtask for the anticipated project activities along with the assumptions used to compile these estimates.

7.0 Subcontractors/Consultants

The services of subcontractors or consultants will be used for Task 3, Field Investigation/Data Acquisition. Construction-type services will be obtained for the test pit investigation. A subcontractor will be procured to perform the topographic survey at the Skaggs site. A driller will be procured to install the groundwater monitoring wells. A surveyor will be procured to survey the locations and elevations of the groundwater monitoring wells.

8.0 Exceptions, Anticipated Problems, and Special Requirements

All exceptions to this task order have been identified in this Project Plan. At this time, nothing is foreseen that may affect projected hours, budget, or time frames described in this plan. A major issue at this time is the ability to obtain access to individual properties at the site for performance of field activities. Access rights may be a problem and pose special considerations. BVSPC will work closely with the EPA TOPO to minimize any impacts such access restrictions may have on the overall project schedule and budget. If other unforeseen factors arise, or if the current scope of work is changed, adjustments will be made to accommodate those changes. It is understood that such changes require the approval of the EPA contracting officer.

Appendix A
Statement of Work

STATEMENT OF WORK FOR
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS)
FOR THE WASHINGTON COUNTY LEAD DISTRICT- FURNACE CREEK SITE, PALMER AND PEA RIDGE AREAS
OPERABLE UNIT 1

Washington County, Missouri

Contract No: EP-S7-05-06

Task Order No: TBD

I. BACKGROUND INFORMATION

The Furnace Creek (FC) site is one of six sites located within a heavily mined region of eastern Missouri known as the Washington County Lead District. The Furnace Creek Site is located in the south eastern corner of Washington County, and includes residential areas within and around the communities of Belgrade, Caledonia, and Irondale. The site boundary is depicted in Figure 1.

Lead occurs naturally in the rocks of Washington County and was mined primarily from the Cambrian age Potosi and Eminence dolomite formations. Lead occurs as the minerals galena (lead sulfide) and cerussite (lead carbonate). Lead mining in Washington County began in the early 1700's and continued through the mid-1900's. Mining activities resulted in large debris piles containing lead and other metals. Material containing lead was also used as fill material in yards and driveways at numerous properties within the site. People living on these properties are exposed to lead concentrations that are greater than the general population. Exposure to lead can result in adverse health issues in children and in adults. For example children with elevated blood lead levels exhibit an increased incidence of developmental disabilities.

Furnace Creek

In February 2008, the U.S. Environmental Protection Agency Region VII (EPA) began evaluating the potential for lead contamination at the Furnace Creek site. EPA collected soil samples from the yards at 1,512 properties to evaluate whether the yards were contaminated with lead and collected water samples from drinking water supply wells at 1156 properties to evaluate whether the drinking water was contaminated with lead.

By January 2011, EPA identified and cleaned up 169 residential properties with surface soil lead at concentrations exceeding the EPA time-critical removal action threshold of 1,200 parts per million (ppm). An additional 293 residential properties have been identified that contain lead in surface soil at concentrations exceeding the EPA screening level of 400 ppm.

EPA also identified 6 private drinking water wells with lead concentrations exceeding the Maximum Contaminant Level (MCL) of 15µg/L for lead. To date, an alternative source of drinking water has been provided to two of the properties owners. The remaining property owners declined alternative water or did not respond to the offer to be provided with an alternate water supply. The site was placed on the National Priorities List on March 10, 2011.

Palmer

In March 2010, EPA began investigating the Palmer site in Washington County. EPA completed a Preliminary Assessment of the Palmer site in July 2012, and completed a site inspection of the Palmer site in March 2013. There are approximately 379 residential properties at the Palmer site. During the PA and SI, soil and water samples were collected from 100 residential properties. Of the 100 properties where samples were collected, 3 properties exhibited lead concentrations in the soil greater than 1200 ppm and 4 properties exhibited lead concentrations between 400 ppm and 1200 ppm. To date, none of the properties have been remediated. The water samples from 3 residences exhibited lead concentrations that exceed the MCL for lead of 15 ppm. To date, none of the residences have been provided with an alternate source of drinking water. The issues at the Palmer site are very similar to the issues identified at the Furnace Creek site. However, there are fewer properties within the Palmer Site and, to date, a smaller percentage of the properties exhibit lead concentrations in the soil or water that represent a potential threat to human health.

Pea Ridge

In March 2012 EPA completed a Site Inspection of the Pea Ridge site and in May 2013 EPA completed the time critical removal action at the Pea Ridge site. One thousand and thirty three (1033) residential properties were identified at the Pea Ridge site. Soil and water samples were collected from 569 properties. Homeowners denied access to collect samples from 72 properties and 388 homeowners did not respond and could not be contacted to obtain access. Of the 569 properties where samples were collected, 6 properties exhibited lead concentrations in the soil that exceeded the time critical removal action level of 1200 ppm, 7 properties exhibited lead concentrations less than 1200 ppm but had a child in the home 6 years of age or younger. Ten of the 13 homes have been remediated. Two properties were not remediated because they are now vacant, and the 1 remaining residence was identified after removal work ceased and will be addressed during additional removal and remedial work. Fifty-two (52) properties exhibited lead concentrations in the soil between 400 ppm and 1200 ppm. The issues at the Pea Ridge site are very similar to the issues identified at the Furnace Creek site. However, there are fewer properties within the Pea Ridge Site and, to date, a smaller percentage of the properties exhibit lead concentrations in the soil or water that represent a potential threat to human health.

In June 2013, in response to funding considerations and the need for additional evaluation EPA incorporated the Palmer and Pea Ridge sites into the existing Washington County Lead District - Furnace Creek NPL Site. Including these areas into the Furnace Creek site is appropriate because the issues at Palmer and Pea Ridge are similar but the number of contaminated properties is smaller, therefore the two areas do not merit listing these areas as separate sites. EPA is conducting two Remedial Investigations/ Feasibility Studies. The first RI/FS was initiated in the fall of 2011, and is now supporting an Interim ROD for Furnace Creek

OU 1. This second RI/FS will support the Final ROD for OU 1. There will be a separate FS and ROD for OU 2 Groundwater.

II. OBJECTIVE AND SCOPE

The purpose of this task order is to conduct a remedial investigation (RI) and feasibility study (FS) for Operable Unit 1 of the Washington County Lead District – Furnace Creek Site to select a final remedy for residential soils that eliminates, reduces, or controls risks to human health and the environment. This additional RI is necessary to evaluate the Palmer and Pea Ridge Areas of the WCLD-Furnace Creek site and to obtain additional information to evaluate issues with data collected during previous investigations. This RI/FS for Operable Unit 1, involves the investigation and study of lead contamination of the soil caused by historical mining activity in Washington County along with the development and evaluation of remedial alternatives from which a remedy may be selected for implementation. This statement of work (SOW) sets forth the framework and requirements for this effort. The goal is to develop the data necessary to support the selection of a remedy, and to use this data to support a Final Proposed Plan for Operable Unit 1 at the site. The estimated completion date for this task order is July 30, 2014.

III. GENERAL

This task order (TO) requires the Contractor to:

A. Provide end products for a negotiated cost. The end product of this task order is a Remedial Investigation/ Feasibility Study Report including a Human Health Risk Assessment (HHRA) Report that provides the information necessary to support the development of a Proposed Plan that when implemented through remedial actions will eliminate, reduce or control risks to human health and the environment.

B. Furnish all necessary and appropriate personnel, materials, and services needed for, or incidental to, performing and completing the RI, the Baseline Human Health Risk Assessments, and the FS's in accordance with the requirements of this SOW.

This SOW is provided as a format for the contractor to structure the proposed approach and cost estimate. The Contractor should select and develop the appropriate components found in the SOW to successfully meet the requirements of this task order. Use the SOW in cost estimate preparation, technical guidance, cost tracking, and reporting under this task order.

In conducting the task order, EPA expects the contractor to propose and implement the most appropriate and cost-effective procedures and methodologies using accepted engineering practices and controls. Throughout the performance of this task order, EPA expects the Contractor to be responsible for performing services and providing products at the lowest reasonable cost. If the Contractor fails to meet the requirements within the negotiated costs, the government may elect to provide the Contractor with additional funds to complete the task order. If there are changes to the SOW by the government, the government will issue a formal amendment to the SOW and negotiate the cost of the amendment with the Contractor to form a new cost estimate.

A summary of the potential major deliverables and proposed schedule for submittals is included in the SOW. This summary and schedule can be used as the basis for the Contractor's proposed deliverables and schedules included in the work plan. The EPA Task Order Project Manager (TOPO)/Contracting Officer Representative (COR) will track deliverables submitted by the Contractor. In all cases the Contractor shall use the most recently issued guidance.

Communicate at least bi-weekly with the EPA TOPO/COR, either in face-to-face meetings or through conference calls. Document all decisions that are made in meetings and conversations with EPA. Forward this documentation to the TOPO/COR/Project Officer/Contract Officer within 5 working days of the meeting conversation.

EPA provides oversight of contractor activities throughout the TO. EPA review and approval of deliverables is a tool to assist this process and to satisfy, in part, EPA's responsibility to provide effective protection of public health, welfare, and the environment. EPA also reviews deliverables to assess the likelihood that they achieve their goals, and that its performance and operations requirements have been met. Acceptance of deliverables by EPA does not relieve the Contractor from responsibility for the adequacy of the deliverables or its professional responsibilities.

RECORD KEEPING REQUIREMENTS

The Contractor will maintain all technical and financial records for the TO in accordance with the contract. At the completion of the task order, submit an official record of the final deliverables using electronic media as prescribed in the contract and in hardcopy to the TOPO/COR.

TASK ORDER COMPLETION DATE

The goal is to complete the task order technical activities and closeout activities by July 30, 2014.

The remainder of this SOW describes the work elements associated with the RI/FS.

IV. TASK ORDER TASKS

The Contractor shall furnish personnel, services, materials, and equipment required to perform RI/FS activities in accordance with all applicable regulations and guidance including but not limited to OSWER Directive 9355.3-01, 10-88 (Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA). The following work breakdown structure shall be used for project scoping, scheduling, technical support, cost tracking and reporting.

TASK 1 PROJECT PLANNING AND SUPPORT

This task includes work efforts related to project initiation, management and support. The technical and managerial activities required to implement the RI/FS and the associated costs shall be developed during the planning phase and detailed in the RI/FS work plan and cost estimate. The project initiation and support will lead to the selection of a remedy that eliminates, reduces, or controls risks to human health and the environment. Activities required under this task include, but are not limited, to the following:

1.1 Review of this Task Order, preparation for, and attendance at a scoping meeting to be executed with EPA. For estimating purposes, it is assumed that:

A. The meeting will be held at EPA Region 7 Offices (EPA R7) located at 11202 Renner Blvd, in Lenexa, Kansas, and

B. The Contractor's attendees shall travel from and return to their local office on Glenwood in Overland Park, Kansas (OPK) by company vehicle.

1.2 The Contractor shall develop and submit a Work Plan (WP). The WP will be submitted in two volumes. Volume I will contain a discussion of how the Contractor will perform the tasks assigned, planning assumptions, staff assigned with their responsibilities by task, an organizational chart, timelines, and deliverables. Volume I will contain no Confidential Business Information (CBI). Volume II will contain cost data and will be considered CBI. Schedules and supporting detail should be provided in Volume II such that EPA can easily evaluate the cost proposal for the project.

1.3 Based on EPA's review of the Contractor's WP, comments may be submitted and/or the Contractor may be called upon to participate in negotiations. Revisions as a result of these comments and/or negotiations shall be incorporated into the final WP. For estimating purposes, it is assumed that: 1. the meeting shall be held at EPA R7, and 2. the Contractor's attendees will travel from and return to OPK by company vehicle.

1.4 The Contractor shall provide a Conflict of Interest Disclosure (COID) regarding the site and all participants for themselves and all subcontractors within 10 days of acceptance of this TO.

1.5 The Contractor shall coordinate a meeting among various stakeholders who will be identified by Steve Kemp. Stakeholders will include representatives from EPA, ATSDR, MDNR, MDHSS and Washington County. The purpose of the meeting will be to solicit input regarding the type of soil samples to be collected and sampling methods to be used.

1.6 The Contractor shall prepare a site specific Health and Safety Plan (HSP) consistent with 29 CFR 1910.120 (1)(1) and (1)(2).

1.7 The Contractor shall prepare a Field Sampling Plan (FSP), that describes, as best as possible at the time, the types of samples, procedures, and methods that will be used to collect, process, administrate, store, transport, etc. these data items. The Plan shall be versatile enough to address any additional or other sampling that may be required by

these efforts with none or very little amendment. The procedures, methods, standards, and exercises necessitated for use of the Region 7 Laboratory shall be contained herein. If it is proposed to use other labs or facilities via contract with the Contractor, the same information must be supplied for each of them. Additional details of the requirements of the FSP are described herein under Task 3 - Field Investigation Task.

1.8 The Contractor shall review and revise the site-specific Quality Assurance Project Plan (QAPP) and its addendums in accordance with EPA QA/R-5. As part of the revision, all references to SOPs shall be updated with current nomenclature. At a minimum, the following SOPs shall be referenced in the QAPP: 4220.03A and 4230.19AA. The QAPP shall be versatile enough to address any additional or other sampling that may be required by this effort with minimal amendments. The QAPP shall describe the project objectives and organization, functional activities, and quality assurance/quality control (OA/QC) protocols that shall be used to achieve the desired Data Quality Objectives (DQOs). The DQOs shall, at a minimum, reflect use of analytical methods for identifying contamination.

1.9 The Contractor shall perform site specific project management for the entire term of the TO which shall include, but not be limited to:

(A) Establishment and maintenance of necessary TO files;

(B) Perform contract administration functions associated with this TO;

(C) Provide monthly reporting and invoices, where monthly costs are delineated by task number as described in this task order;

(D) Monitor costs and performance;

(E) Coordinate staffing and other support activities to perform the TO tasks in accordance with this SOW including Team Subcontractors and other subcontractors.

(F) Attend necessary TO -specific meetings. For estimating purposes, assume that there will be 5 total meetings of which three will take place at EPA-R7, one will take place near site in Potosi, Missouri, and one at the Contractor's office in OPK.

1.10 The Contractor shall review, study, and evaluate existing site files and data relating to the site and its issues, as necessary, to function expediently, effectively, and cost efficiently under this TO. Those files are available from the TOPO, at the Superfund Records Center at EPA-R7. For estimating purposes, assume that those files contain 4 shelf-feet of information which will require two hundred pages of copying.

1.11 The Contractor shall develop a conceptual understanding of the site based on the examination and evaluation of existing data plus other research as necessary. The Contractor shall submit a Letter Memorandum (LM) with their observations, conclusions, and suggestions about the project and the efforts that will be required to accomplish the undertaking's goals. The LM will include a description of data gaps and data collection necessary to address each of the data gaps.

1.12 The Contractor shall identify likely response scenarios and potentially applicable technologies, engineering solutions, and feasible procedures for the most likely required remedial actions of the undertaking. This information shall be submitted in a LM.

1.13 The Contractor shall initiate identification of Applicable or Relevant and Appropriate Requirements (ARARs) which may affect remedy selection for all alternatives possible within this undertaking. This information shall be submitted in a LM.

1.14 The Contractor shall accommodate any external audit or review mechanism that EPA may require, but no specific LOE or cost will be specifically included in the WP.

TASK 2 COMMUNITY INVOLVEMENT

Not Applicable

TASK 3 FIELD INVESTIGATION

This task includes work efforts to collect environmental data in support of the RI, HHRA, and FS. A field logbook(s) recording all activities shall be kept by the Contractor and provided to EPA. These activities shall be completed as noted below. Activities required under this task include, but are not limited to:

3.1 The Contractor shall set up and coordinate a meeting(s) among various stakeholders that may include EPA Region 7 personnel form SUPR/SPEB, and ENSV, and personnel from MDNR, MDHSS, as well as the Washington County Health Department. The purpose of the meeting will be to determine the sampling objectives, the samples that will be collected, the appropriate sample collection procedures, and data analysis to be performed to achieve the sampling objectives. For the purpose of cost estimation, assume that one meeting will be held in Jefferson City, MO and any additional meetings will be held via telephone conference call.

3.2 Prior to developing a plan,the contractor shall review existing EPA, residential, soil sampling data results to evaluate the need for additional soil data for these analytes.

3.3 Field Sampling Plan and Quality Assurance Project Plan: Based, in part, on the results of the meeting described in Task 3.1, the Contractor shall develop a Field Sampling Plan (FSP) and Quality Assurance Project Plan(QAPP) which will be employed in element 3.3.2 - Soil Sampling. The FSP shall incorporate the elements immediately below and assure that the data generated will be of sufficient quality and provide the information necessary for Risk Assessments and Feasibility Studies. The FSP will include, but is not limited to the following:

3.3.1. The FSP shall identify the number, type, and locations of samples and the methods that will be used to collect them will be listed.

3.3.2 The FSP shall identify the metals of concern that will be analyzed. The metals of

concern for this site are arsenic, barium, cadmium, cobalt, copper, chrome, lead, silver, vanadium, and zinc.

3.3.3 For soil sampling, a representative set (30) of fine-fraction samples (250 micron i.e. #60 sieve size) will be collected, analyzed for lead and correlated with co-located, unsieved samples. Fine-fraction samples shall be collected for the full range of soil lead contamination found at the site.

3.3.4. Soil samples will be collected from residential properties that were not sampled during the Removal Action – including residential yards, driveways, public play areas, and children play areas. Based on review of existing data including, aerial imagery, field observation, and data collected during the removal action, the Contractor will complete an inventory of all of the locations where soil samples have not been collected. This inventory will become a part of the FSP. Properties where access for sampling was not obtained shall be identified and additional efforts shall be taken to obtain the access. These efforts may include phone calls, mailings, and or door to door communication. The FSP may be amended after receiving EPA approval, as access to additional properties is obtained. For cost estimation purposes, assume 100 properties will be sampled, and 5 soil samples will be collected at each property.

3.3.5 Soil samples will be collected for the following purposes:

3.3.5.1 To characterize the lead concentration in the soil using XRF field techniques. Assume that EPA will provide the XRF for analyzing soil samples in the field.

3.3.5.2 To verify XRF results by submitting a subset of samples for laboratory analysis of total lead concentration in the soil.

3.3.5.2.1 The FSP should specify procedures for processing and submitting 10 percent of the samples to the EPA Region 7 laboratory for confirmation of the total lead concentration in soil.

3.3.5.2.2 The FSP should specify procedures for processing and submitting 10 percent of the samples to an independent laboratory for confirmation of the total lead concentration in soil. The purpose of this analysis is to serve as an independent verification of the laboratory confirmation.

3.3.5.3 Characterization of the mineralogy of lead minerals - The FSP should specify procedures for determining the lead mineralogy of the fine fraction (sieved using the 250 micron, #60 sieve). This type of sampling is also referred to as "speciation". For cost estimating purposes, plan to collect sufficient sample volume at each of the 30 properties to complete all of the specified analyses. Samples will be submitted to an appropriate laboratory for analysis.

3.3.5.4 To evaluate in-vitro bioavailability (IVBA)

3.3.6 Soil Sampling Methods: The FSP should specify that samples will be collected from 30 properties using two (2) methods.

3.3.6.1 Standard Method: The FSP will describe the procedures for collecting 9 aliquots of soil, drying the sample, sieving the soil with a # 10 sieve, and analyzing the sample using X-Ray Fluorescence (XRF) technology, submit 10 percent of the samples to the EPA Region 7 Laboratory for analysis for the critical metals at the site (arsenic, barium, cadmium, cobalt, copper, chrome, lead, silver, vanadium, and zinc). For the purpose of the standard method each residential property will be divided into quadrants with the driveway, drip zone around the residence, any gardens areas, and any child play areas, identified and samples as separate quadrants. As part of the quality assurance procedures, the effect of the plastic bag on the XRF readings will be evaluated. Using three different plastic bags place one of the XRF standards (small plastic cylinder) in a plastic bag and take 3 readings through the plastic for each bag. Additional issues to be considered will be discussed in the meeting referenced in task 3.1 above.

3.3.6.2 Incremental Sampling Methodology (ISM): The FSP will describe the methods for collecting samples using ISM consistent with the Technical and Regulatory Guidance for Incremental Sampling Methodology developed by the Interstate Technical and Regulatory Council dated February 2012 (or most current version) and the relevant portions of the User Guide Uniform Federal Policy- Quality Assurance Project Plan Template for Soils Assessment of Dioxin Sites dated September 2011 (UFP-QAPP). The specifics of this methodology will be discussed during the meeting identified in task 3.1 above. For planning purposes assume that the sub-units used in ISM will correspond with the quadrants used for the standard method, and that compositing of aliquots for the ISM method will use splits of the aliquots collected using the standard method. The results of the two different sample collection and preparation methods will be compared to evaluate which method best represents the lead concentration at each property.

3.3.6.3 IVBA analysis: The FSP will describe the methods for collecting and processing samples to be analyzed for In-vitro bioavailability. Samples will be collected and sieved using a #60 sieve (250 micron), and split into equal parts. One set of samples will be submitted to the EPA Region 7 laboratory for analysis of IVBA. The other split will be submitted to an independent laboratory for analysis of IVBA.

3.3.7 The FSP will be submitted to EPA for approval.

3.4. Database Development Plan: The Contractor shall develop a plan for maintaining all environmental data collected at the site. Sampling data should be uploaded into the Oracle database through an ODBC connection. Existing data generated from removal action activities shall be incorporated into the database as necessary. The location data (latitude/longitude in decimal degree format) of each sample, should be stored in the database. The EPA point of contact for the data management is Vickie Damm.

3.5. Mobilization and Demobilization: The Contractor shall perform all activities related to Mobilization and Demobilization for field activities. For economies of scale and to prevent repetition of effort, unless otherwise instructed by the COR, sampling shall be accomplished, in minimal mobilizations to the site. These efforts shall include LOE and costs specifically required by these two activities only. All other preparation and close down LOE and cost should be included in their respective activities.

3.6. Sample Collection: The Contractor shall perform environmental sampling. All sampling shall be conducted in accordance with the approved sampling plan and best technical practice unless exception is requested and approved in advance of the sampling effort. Activities required under this task include, but are not limited to:

3.6.1. Soil samples will be collected in accordance with the FSP and QAPP approved by EPA and as required. Soil samples will only be analyzed for arsenic, barium, cadmium, cobalt, copper, chrome, lead, silver, vanadium, and zinc.

3.6.1.1. Residential yard soils, driveways, schools, parks, and children play areas determined to require sampling in the FSP shall be sampled by the established EPA sampling methods used at the site employing X-Ray Fluorescence (XRF) technology and 30 samples will be sent to the EPA Region 7 Laboratory for analysis for the critical metals at the site (arsenic, barium, cadmium, cobalt, copper, chrome, lead, silver, vanadium, and zinc).

3.6.1.2. For each property that was not previously sampled during the Removal Action, contractor will develop a map of each property that depicts yard features such as buildings, decks, trees, tree lines, shrubs, flower beds, gardens, play areas, driveways, fences, and any other features that will inhibit potential soil excavation. The aerial imagery obtained for Washington County will be used as a basemap for the property maps.

3.7. Investigation Derived Waste Management: The Contractor shall dispose of Investigation Derived Waste and other waste generated on site in accordance with Local, State and Federal Regulations. The Plan to accomplish this requirement shall be included in the appropriate sections of the FSP and QAPP. For estimating purposes, it is assumed none or very little waste will be generated by this TO activity, therefore, minimal LOE or costs should be assigned specifically to this Sub-Task.

TASK 4. SAMPLE ANALYSIS

This task includes the analysis of environmental and waste samples and is exclusive to the performance of sample analyses and the production of analytical data. All environmental and waste samples shall be analyzed for the metals of concern, identified above. The Contractor, from information supplied by Region 7 Environmental Services Division (ENSV) Laboratory or other Labs or facilities via contract with the Contractor, shall provide analysis of samples and production of analytical data results in accordance with the QAPP prepared for this site's activities. For estimating purposes, assume the Contractor shall have no analytical costs for work

done by the EPA Region 7 laboratory, but will present the data required in Technical Report format as covered in Sub-Task 6.3.

TASK 5. ANALYTICAL SUPPORT AND DATA VALIDATION

This task includes work efforts involved in scheduling, coordination, tracking, and oversight of all analyses as well as the validation of the analytical data produced. These efforts shall be completed singularly and in common. Activities required under this task include, but are not limited to:

5.1. The Contractor shall ship environmental and waste samples in accordance with the FSP. A master list, which will be available to EPA at all times, shall be maintained electronically. It shall include, but not be limited to: listing all samples requiring collection, status of their collection, status of their shipping [date, time, transportation method, etc.], to where they were shipped, information on that facility's acceptance, when analysis is completed, results, and when data is validated. The effort for this Sub Task will cover creating and maintaining the master list. For estimating purposes, assume that this sub-task shall cover only the preparation and maintenance of the master list, sample coordination, chain-of-custody, and information management. All LOE and costs associated with sample collection and preparation will be contained in Task 3 above.

5.2. The Contractor shall provide coordination of sample delivery with the appropriate EPA contact at the Region 7 Lab and other labs or facilities. The LOE and cost associated with this effort shall be covered in Sub-Task 5.1 above.

5.3. The Contractor shall perform all necessary sample management activities including chain-of-custody and information management. The LOE and cost associated with this effort shall be covered in Sub-Task 5.1 above.

5.4. The EPA Region 7 Lab will provide data validation on the samples they accept. The Contractor shall perform review of that data validation with conclusions and comments to the TOPO in LM format of the sample results including a determination of whether the data are defensible, produced in accordance with the QAPP and FSP, and useable for their intended purposes. It shall include the data developed in Sub-Task 5.1 above. If samples are sent to other labs via contract with the Contractor, the Contractor shall perform data validation on those sample results including a determination of whether the data are defensible, produced in accordance with the QAPP and FSP, and useable for their intended purposes. It shall include the data developed in Sub-Task 5.1 above. The other facilities data validation, if required, shall be submitted to EPA in a Technical Report format. For estimating purposes, assume the Contractor shall produce the LM of data validation of the EPA Region 7 Lab effort but, not the Technical Report for other lab facility data validation. Contractor will need to assure any independent laboratory that analyzes samples performs the necessary data validation.

TASK 6 DATA EVALUATION

This task includes work efforts related to the compilation of RI analytical and field data. The data is to be entered into a Region 7 compatible computer data base and is to be utilized in the preparation of the RI, FS's, and Risk Assessment Reports tables, maps and figures. The activities required under this task include, but are not limited to:

6.1. The Contractor shall perform data; usability evaluation and field QA/QC on all data generated for sample analysis. This effort shall include all quality evaluation not completed in sub-task 5.4 above and shall include the data provided from the Southwest Jefferson County Mining Site, time critical removal action and any other supplied data generated from previous site investigations. All LOE and costs associated with this sub-task shall be included in sub-task 6.3 below.

6.2. The Contractor shall perform data reduction and tabulation of field sampling data, previously-generated site data, analytical results, etc. All LOE and costs associated with this sub-task shall be included in sub-task 6.3 below.

6.3. The data evaluation will include statistical and other analysis as appropriate to evaluate any correlation of the data sets. The statistical methods will be discussed during the meeting identified in section 3.1 above.

6.4. The Contractor shall provide their evaluation of the analytical data to EPA in a Technical Report format.

TASK 7 ASSESSMENT OF RISKS

This task includes work efforts, to prepare a draft and final Baseline Human Health Risk Assessment (BHHRA) for residential land use only at the site. The objective of this assessment is to characterize and quantify where appropriate, the current and potential human health risks posed by contaminated soil at residential properties that would prevail if no remedial action is taken at the site.

7.1 The Contractor shall prepare an interim Exposure Assessment Technical Report on proposed techniques and strategies, including (a) conceptual site model, (b) IEUBK model input parameters, (c) input parameters for the remaining metals, (c) description of methods and parameter values proposed for any environmental fate and transport modeling (e.g., soil to air releases, soil to vegetable uptake, etc.), and (d) uncertainty analysis.

7.2 The draft BHHRA shall not be prepared until the EPA has reviewed and approved the Exposure Assessment Technical Report described above. The Contractor shall complete each step in the risk assessment process in accordance with current EPA guidance and policies contained in the attached list of references. Contractor staff shall be responsible for performing the necessary analysis, integration, validation, and interpretation of site-specific technical data to support preparation of the draft risk assessment.

7.3 After review and comment by EPA, the Contractor shall revise the risk assessment and

prepare the final report.

TASK 8 TREATABILITY STUDY/PILOT TESTING

N.A.

TASK 9 REMEDIAL INVESTIGATION REPORT

This task includes work efforts related to the preparation of findings once data has been evaluated. The RI shall provide information to assess risks to human health and the environment and to support the development, evaluation and selection of appropriate response alternatives. The task includes all draft and final reports. The EPA may perform the ecological sampling and prepare a Baseline Ecological Risk Assessment to be incorporated into the RI. The RI report shall be submitted as soon after completion of the BHHRA as possible and shall be written in accordance with *"Guidance for Conducting Remedial Investigations/Feasibility Studies under CERCLA," OSWER Directive 9355.3-01, October,* 1988, *Interim Final,* or *latest revision.* The RI report shall include, but is not limited to a discussion of the following:

- Site Background should include mining history, and a summary of previous investigations.
- Investigation
  - Field Investigation and technical approach
  - Chemical analyses and analytical methods
  - Field methodologies (biological, surface water, sediment, air erosion, soil sampling, monitoring well installation, groundwater sampling, disintegrating asphalt pavement, etc.)
- Site Characteristics - Geology
  - Hydrogeology
  - Meteorology
  - Demographics and land use
  - Ecological assessment
- Nature and Extent of Contamination
  - Contaminant sources
  - Contaminant distribution and trends
- Fate and Transport
  - Contaminant characteristics
  - Transport processes
  - Contaminant migration trends
- Summary and Conclusions
- The report will be submitted in a manner to be determined so assure that Personally Identifiable Information is omitted from the version that will be made public as part of the administrative record.

TASK 10 REMEDIAL ALTERNATIVE SCREENING

This task includes work efforts to develop appropriate remedial alternatives to undergo

full evaluation (Task 12). The alternatives are to encompass a range including innovative treatment technologies consistent with the regulations outlined in the *National Contingency Plan (NCP),* 40 *CFR Part 300 and the Guidance for Conducting Remedial Investigations and Feasibility studies under CERCLA (OSWER Directive 9355.3-01 and other OSWER Directives including 9355.4-03, October* 18, 1989 *and 9283.1-06, May* 27, 1992 *"Considerations in Ground Water Remediation at Superfund Sites").* Activities required under this task include, but are not limited to:

10.1 The Contractor shall identify and assist EPA in establishing Remedial Action Objectives.

10.2 The Contractor shall identify and assist EPA in establishing general response actions.

10.3 The Contractor shall identify and screen applicable remedial technologies

10.4 The Contractor shall develop remedial alternatives in accordance with *Section 300.430(e)* of *the NCP (1990).*

10.5 The Contractor shall screen remedial alternatives for effectiveness, implementability, and cost.

10.6 The Contractor shall provide the results of all the above analysis to EPA for approval in a Technical Memorandum.

10.7 The Contractor shall minimize, to the extent practical, the LOE expended on this task to reflect the fact that remedial alternatives have been evaluated for similar lead sites in the past.

TASK 11 - REMEDIAL ALTERNATIVES EVALUATION

This task includes efforts associated with the assessment of individual alternatives against each of the nine evaluation criteria and a comparative analysis of all options against the evaluation criteria and each other. The analysis is to be consistent with the *National Contingency Plan (NCP),* 40 *CFR Part 300* and is to consider the *Guidance for Conducting Remedial Investigation and Feasibility Studies under CERCLA (OSWER Directive 9355.3-01)* and other pertinent OSWER guidance. This evaluation shall be submitted to EPA in Technical Memorandum Format and shall be included in the FS Report below. The EPA will make the determination regarding final selection of the remedial alternative(s).

The 9 criteria the Contractor shall employ in the evaluation of remedial alternatives are:

- Overall protection of human health and the environment
- Compliance with ARARs
- Long-term effectiveness and permanence
- Reduction in toxicity, mobility or volume through treatment
- Short-term effectiveness
- Implementability - technical and administrative

- Cost
- State acceptance
- Community acceptance

TASK 12 FS REPORTS

This task includes work efforts related to the preparation of findings once remedial alternatives have been screened and evaluated. The task includes preparation of the three draft and final reports. The Feasibility Study Report shall be submitted to the EPA in Technical Report Format and shall include a discussion of the following, but additional topics may be included:

- Feasibility Study Objectives
- Remedial Objectives
- General Response Actions
- Identification and screening of Remedial Technologies
- Remedial Alternatives Description.
- Detailed Analysis of Remedial Alternatives (individual and comparative)
- Summary and Conclusions

TASK 13 POST RI/FS SUPPORT

This task includes efforts to support the Agency's preparation of and administration associated with the Record of Decision (ROD). The final recommendation contained in the ROD shall represent the opinion and recommendation of EPA, not that of the Contractor. Activities required under this task include, but are not limited to:

13.1 The Contractor shall attend public meetings, briefings, public hearings, availability sessions, and technical meetings as instructed by the TOPO. For estimating purposes, assume this will require 1 evening event in Potosi, Missouri and require an overnight stay plus a minimum of preparation time.

13.2 The Contractor shall provide technical assistance in the preparation of the Responsiveness Summary as required by the TOPO. For estimating purposes, assume this will require research, Email, and a LM communication on 5 questions and/or comments.

TASK 14 NEGOTIATION SUPPORT

N.A.

TASK 15 ADMINISTRATIVE RECORD

N.A.

TASK 16 TASK ORDER CLOSE OUT

This task includes efforts related to TO closeout. Activities required under this task

include, but are not limited to:

16.1 Upon notification by EPA, the Contractor shall begin all internal procedures necessary to closeout the TO including any file duplication, distribution, storage or archiving per the contract requirements.

16.2 The Contractor shall return documents identified to EPA or other document repositories as directed.

16.3 The Contractor shall prepare a Task Order Completion Report (TOCR) in accordance with the contract using the specified Regional format.

V. TO PERIOD OF PERFORMANCE

This TO shall run from the date of issuance until July 31, 2014.

VI. SCHEDULE OF DELIVERABLES/MILESTONES

In addition to paper copies, the contractor will submit the Final versions of the following documents as PDF documents: FSP, HSP, QAPP, RI/FS and HHRA Reports. PDF documents will be submitted on a thumb drive or other appropriate media. Documents will be converted to PDF from the native word processing, spreadsheet, CAD, or GIS software rather than scanning the image of pages and converting the scanned images to PDF. The HHRA Report will be submitted as a separate volume labeled in a manner that indicates that it is an attachment or an appendix to the RI/FS Report.

TASK	DELIVERABLE	DUE DATE
1.1	TO Scoping Meeting	Mutually Agreeable Date as Soon After Issuance of the TO as Possible
1.2	Site Visit (optional)	Fifteen [15] Days After TO Acceptance
1.2	Site Visit Report	Ten [10] Days After Return from Site Visit
1.2	WP	Per Contract Requirements
1.2	WP Negotiations [if necessary]	Mutually Agreeable Date and Time as Soon After EPA Review of the WP as Possible
1.3	Final WP	Ten [10] days After Completion of Negotiations or Receipt of EPA Comments
1.4	Conflict of Interest Disclosure (COID)	Per Contract Requirements
1.6	HSP	Ten [10] Days After Acceptance of the WP
1.7	FSPs	Twenty [20] Days After Acceptance of the WP
1.8	Revised QAPP	Fifteen [15] Days After Acceptance of the WP
1.9 C	Monthly Progress Reports	As Required by the Contract
1.9 F	Project Planning Meetings	As Directed by the TOPO

TASK	DELIVERABLE	DUE DATE
1.10	File Review and Project Information Research	Twenty [20] Days After Acceptance of the TO
1.11	Conceptual Understanding LM	Forty-Five [45] Days After Acceptance of the TO
1.12	Response Scenarios LM	Forty-Five [45] Days After Acceptance of the TO
1.13	ARARs Identification LM	Forty-Five [15] Days After Acceptance of the TO
3.1.1 to 3.1.3	Field Sampling Plan	Thirty [30] Days After Acceptance of the TO
3.1.4	Database Plan	Sixty [60] Days After Acceptance of the TO
3.2	Field Sampling Mobilization	Within Thirty [30] Days of Acceptance of the Sampling Plans
3.3	Environmental Sampling Start	Within Two [2] Days of Mobilization Completion
3.2	Field Sampling Demobilization	As Soon After Completion of Sampling as Possible
4	Sample Analysis	As Soon as Possible, But Must be Completed No later Than Sixty [60] Days After Last Sample is Submitted
5.4	Data Validation Report	Thirty [30] Days After Receipt of Last Lab Analysis
6.3	Data Evaluation Report	Thirty [30] Days After Receipt of Last Lab Analysis
7.1	Exposure Assessment Technical Report	Forty Five [45] Days after acceptance of Task Order
7.2	Draft Risk Assessment Document	Ninety [90] Days After EPA Approval of the Exposure Assessment Tech Report and Receipt of Residential Sampling Results

TASK	DELIVERABLE	DUE DATE
7.3	Final Risk Assessment Document	Thirty [30] Days After Receipt of EPA Comments on the Draft Risk Assessment
9	Remedial Investigation Report	Forty Five [45] Days After EPA Approval of the BHHRA
10.6	Remedial Alternative Screening Memorandum	Twenty [20] Days After EPA Approval of the RI Report
11	Remedial Alternative Evaluation LM	Fifteen [15] Days After EPA Approval of the Remedial Alternative Screening Memorandum
12	FS Reports	Forty Five [45] Days After EPA Approval of the Remedial Alternative Evaluation Letter
13.2	Proposed Plan Public Meeting	As Directed by OEP and/or the TOPO
13.3	Responsiveness Summary Support	As Directed by OEP and/or the TOPO
16.3	TO Completion Report	Per Contract Requirements

VII. PERFORMANCE CRITERIA

The Contractor's deliverables will be inspected by the government for acceptability. Unacceptable deliverables will be returned to the Contractor with comments and directions for necessary corrections or rework which may be applicable.

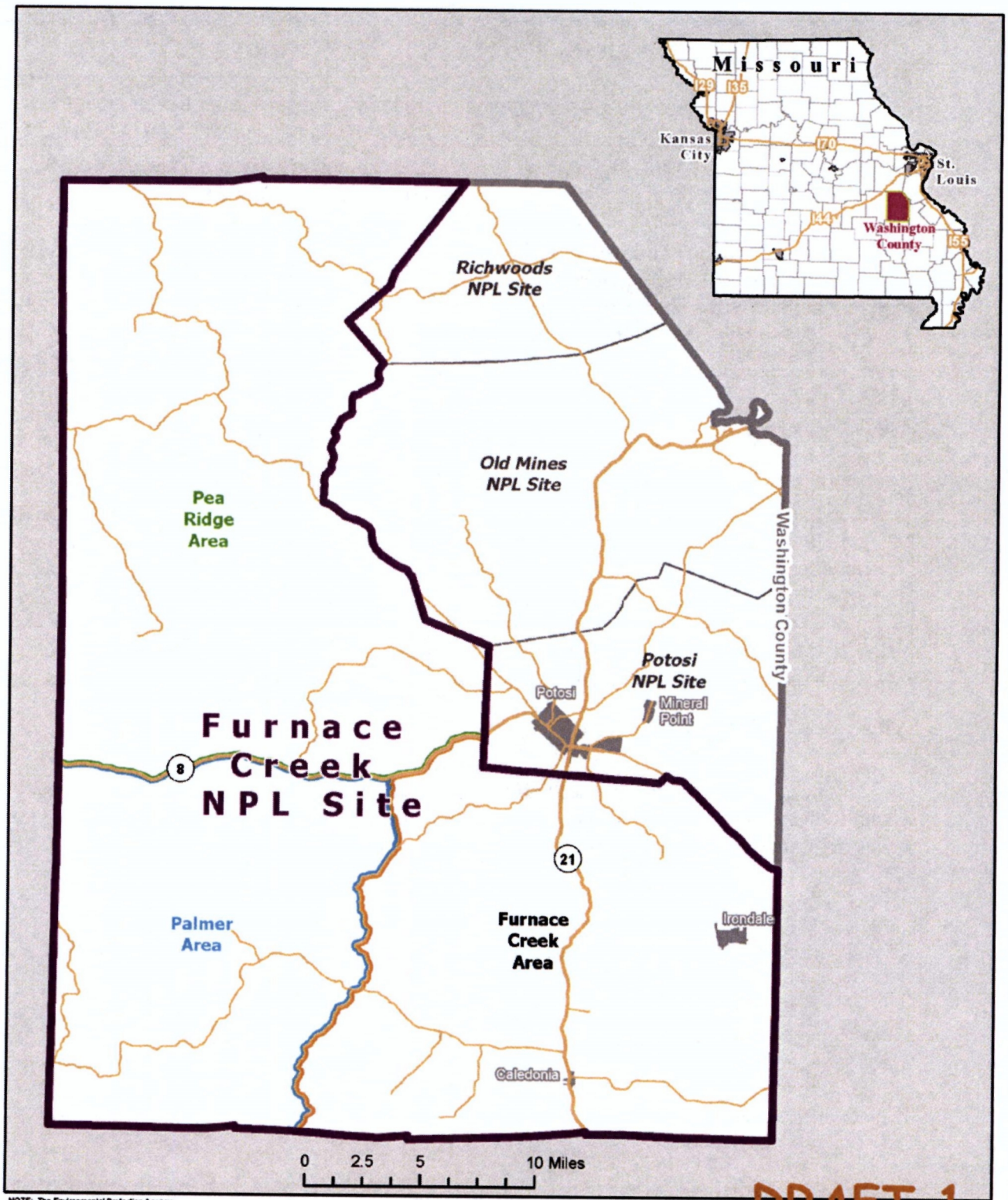
VIII. EPA CONTACTS

Task Order Project Officer (TOPO): Steve Kemp
551-7194

Data Management (COR): Vickie Damm
551-7247

Project Officer (PO): Jim Seiler
551-7773

Contracting Officer (CO): Anthony LaMaster
551-7228



NOTE: The Environmental Protection Agency does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any injury or loss resulting from reliance upon the information shown.
Draft Site Map -- Furnace Creek
7/10/2013
C.McLaughlin

Data Sources:
Political Boundary: GDT 2008
Transportation: Washington Co. 2011
NPL Boundary Areas: EPA 2013

DRAFT 1

Site Map
Furnace Creek NPL Site
Washington County, Mo

Figure 1

Attachment 1

Risk Assessment References

U.S. EPA. 1989. Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual - Part A. Office of Emergency and Remedial Response, Washington, D.C. EPA/540/1-89/002.

U.S. EPA. 1991. Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. Office of Emergency and Remedial Response, Washington, D.C. OSWER Publication #9285.6-03.

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CERCLA Sites and RCRA Corrective Action Facilities. Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive #9200.4-27P.

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U.S. EPA. 2000. Short Sheet: TRW Recommendations for Sampling and Analysis of Soil at Lead (Pb) Sites. Office of Solid Waste and Emergency Response, Washington, D.C. EPA/540/F-00/010.

U.S. EPA. 2001. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part D, Standardized Planning, Reporting and Review of Superfund Risk Assessments). Office of Emergency and Remedial Response, Washington, D.C. OSWER Publication #9285.7-01D.

U.S. EPA. 2002. Blood Lead Concentrations of U.S. Adult Females: Summary Statistics from Phases 1 and 2 of the National Health and Nutrition Evaluation Survey (NHANES III). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Publication #9285.7-52.

U.S. EPA. 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. Office of Emergency and Remedial Response, Washington, D.C. OSWER Publication #9285.6-10.

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FINAL PROJECT PLAN
VOLUME 2 - CONFIDENTIAL BUSINESS INFORMATION
REMEDIAL DESIGN
MADISON COUNTY MINES OU5 SITE
MADISON COUNTY, MISSOURI

EPA Contract No. EP-S7-05-06
EPA Task Order 0126
BVSPC Project No: 044799

September 25, 2013

Prepared By

Black & Veatch Special Projects Corp.
6601 College Boulevard
Overland Park, Kansas 66211

Task Summary Information

The labor hours and costs presented throughout this Volume (Volume 2) are based on specific activities required to complete the tasks described in Volume 1, Technical Approach. The fixed labor rates listed in this Task Order Project Plan are valid through March 31, 2014 and will require an adjustment under clause G.4 Economic Price Adjustment of the AES contract in each succeeding year thereafter.

PROJECT PLAN
EPA REGION 7
AES Contract EP-S7-05-06

REPORT 1 : : PRICING SUMMARY

TASK ORDER NO: 0126 | **SITE NAME: Madison County Mines OU5 Site**
PROJECT PLAN NO: Initial | **TASK ORDER TYPE: RD** | **PREPARATION DATE: September 25, 2013**

Total Estimated Hours	**1,953**
Estimated Project Plan Cost	**$274,420**
Previously Approved Project Plan Budget	**$0**
Proposed Project Plan Budget	**$274,420**

Task No.	Task Name		Hours [Report 2]	Labor Cost [Report 2]	ODCs [Report 3]	Subtotal
1	Task Name	Project Planning & Support	313	$40,449	$1,606	$42,055
2	Task Name	Community Relations	28	$2,636	$717	$3,353
3	Task Name	Field Investigation	353	$31,976	$48,281	$80,256
4	Task Name	Sample Analysis	-	$0	$0	$0
5	Task Name	Analytical Support/Data Validation	4	$444	$21	$465
6	Task Name	Data Evaluation	28	$3,740	$41	$3,781
8	Task Name	Preliminary Design	506	$58,946	$279	$59,225
11	Task Name	Pre-Final/Final Design Package	693	$74,536	$355	$74,890
12	Task Name	Reuse Planning	8	$1,073	$23	$1,095
13	Task Name	Post remedial Design Support	8	$1,073	$32	$1,105
14	Task Name	Task Order Closeout	12	$1,319	$256	$1,575
					$51,609	
	G&A at 12.827%				$6,620	$6,620
		Total	**1,953**	**$ 216,191**	**$58,229**	**$274,420**

Notes:

The fixed labor rates listed in this Task Order Work Plan are valid through March 31, 2014 and will require an adjustment under clause G.4 Economic Price Adjustment of the AES contract in each succeeding year thereafter.

PROJECT PLAN
EPA REGION 7 AES CONTRACT EP-S7-05-06
REPORT 2 : : TEAM LABOR DETAIL

TASK ORDER NO: 0126 **SITE NAME: Madison County Mines OU5 Site** **PREPARATION DATE: September 25, 2013**
PROJECT PLAN NO: Initial **TASK ORDER TYPE: RD**

Task No.	Task Name	CLIN 0001	CLIN 0002	CLIN 0003	CLIN 0004	CLIN 0005	Total Hours	Labor $s	Notes
		Sr Eng/Sci	Mid Eng/Sci	Jr Eng/Sci	Sr Technician	Clerical			
1	Project Planning & Support	79	140	72		22	313	$40,449	
2	Community Relations	2		26	0	0	28	$2,636	
3	Field Investigation	8	0	195	150	0	353	$31,976	
4	Sample Analysis				0	0	0	$0	
5	Analytical Support/Data Validation		2	2	0	0	4	$444	
6	Data Evaluation	4	20	4			28	$3,740	
8	Preliminary Design	54	223	100	97	32	506	$58,946	
11	Pre-Final/Final Design Package	35	235	198	198	27	693	$74,536	
12	Reuse Planning		8				8	$1,073	
13	Post remedial Design Support	0	8	0	0	0	8	$1,073	
14	Task Order Closeout	4			4	4	12	$1,319	
	TOTAL LABOR	186	636	597	449	85	1,953	$216,191	

Task
1 Project Planning and Support

Assume Task Order period of performance is 16 months. Sanders (Sr Eng) at 3 hours per month to prepare status report and review financials, and coordinate staffing, including subcontractors. Assume 3 hours to open project number and establish filing system in Documentum. Assume clerical support to produce monthly reports at 1 hours per month for 16 months. Assume no meetings at EPA offices.

Sr. Eng - Site Manager	51	Hours
Clerical	16	Hours

Prepare subcontracts for topographic survey at Skaggs and intermittent streams, digging test pits, installation of GW monitoring wells and surveying GW monitoring wells. Assume services will be competitively bid and EPA consent to subcontract will be obtained. Assume 20 hours per subcontract.

Sr Eng - Site Manager	8	Hours
Jr. Eng. Scientist	72	Hours

Assume Mid. Engineer will require 32 hours to prepare the FSP and QAPP and 12 hours to prepare the H&S Plan. Assume 6 hours clerical time are required.

Mid Engr	76	Hours
Clerical	6	Hours

Assume design engineers will review existing RI/FS for OU5, Proposed Plan and ROD

Sr Engineer	4	Hours
Mid. Engineer	12	Hours
Mid Eng	12	Hours

Perform Site Visit. Assume one day at site, plus travel. Assume site manager and two design engineers will perform site visit.

Sr. Engineer	16	Hours
Mid Engineer	20	Hours
Mid Engineer	20	hours

2 Community Relations

BVSPC will obtain signed access agreements from the property owners of the Catherine and Skaggs subsites and the property owners along the intermittent streams. Assume 6 to 12 property owners. Assume that one person will make a 2-day trip to Madison County Tax Assessors office to identify the property owners and obtain signed access agreements. Assume 10 hours travel.

Jr. Engineer	26
Sr Engineer	2

3 Field Investigation

Summary of Task 3 LOE

Sr. Eng	8	Hours
Mid Eng		Hours
Jr Eng/Sci	195	Hours
Sr. Tech - BVSPC & PE	150	Hours
Clerical		Hours

Partial Breakout of Field Investigation Hours:

3.1 Assume that BVSPC will require separate mobilizations for each of the 4 sampling events listed below. Mobilization will require leasing field equipment and assembling the field equipment necessary to perform the work. Assume 10 hours per mobilization.

Sr Tech	40	Hours
Sr Eng	8	Hours

TASK ORDER NO: 0126 | **SITE NAME: Madison County Mines OU5 Site** | **PREPARATION DATE: September 25, 2013**
PROJECT PLAN NO: Initial | **TASK ORDER TYPE: RD**

3.3 BVSPC will provide two persons to determine the extent of the contaminated flood plain soils along 11,000 feet of intermittent streams. Assume that insitu XRF readings will be taken every 250 feet along each side of the streams to define the horizontal extent of contamination and that a shovel will be used to determine the depth of the contaminated soil on each side of the stream. Assume GPS readings will be taken at each point. Assume 12 points per day for a two person team and 3.5 10-hour days to complete this work. Assume 10 hours per person for travel.

Sr Tech	45 Hours
Jr. Sci	45 Hours

BVSPC will provide two persons to determine the horizontal extent of the mine waste around the Catherine and Skaggs Sites. Insitu XRF readings will be taken from the surface soil to determine the horizontal extent of the area around the mine waste that exceeds action levels. Assume that the work will be completed at the same time as the characterization of the intermittent streams and that it will take 2 10-hour days to collect the data.

Sr Tech	20 Hours
Jr. Sci	20 Hours

BVSPC will provide one person to provide oversight during the installation of eight groundwater monitoring wells at the site. Assume that the wells will be approximately 20 feet deep. Assume that it will require four 10-hour days, including travel to and from the site to install the wells during one mobilization.

Jr. Sci	40 Hours

BVSPC will provide one person to conduct sampling of the test pits installed at the Catherine and Skaggs waste piles. Assume that 2 test pits per acre will be installed and that there are 25 acres at the sites. Assume that 15 test pits per day will be installed and that 3.5 10-hour days will be required. Assume that 10 hours travel will be required.

Jr. Sci	45 Hours

3.5

BVSPC will collect groundwater samples from the eight GW monitoring wells and surface water/sediment samples from the intermittent streams during one sampling event. Assume that the intermittent streams will be sampled in 6 locations. Assume that 2 10-hour days will be required to collect the surface water/sediment/biota samples. Assume that it will require 1.5 10-hour days to sample the monitoring wells. Assume 10 hours travel per person.

Sr Tech	45 Hours
Jr. Sci	45 Hours

4 Sample Analysis

It is assumed that all samples will be analyzed by the EPA Region 7 laboratory and no costs are included in this task.

TASK ORDER NO: 0126 **SITE NAME: Madison County Mines OU5 Site** **PREPARATION DATE: September 25, 2013**
PROJECT PLAN NO: Initial **TASK ORDER TYPE: RD**

5 Analytical Support and Data Validation

BVSPC will prepare and submit the Analytical Services Request to the EPA Region 7 laboratory for sampling the GW monitoring wells and the surface water/sediment. BVSPC will review the data packages prepared by the EPA laboratory for usability for their intended purpose.

Jr. Sci	2 Hours
Mid Sci	2 Hours

6 Data Evaluation

BVSPC will review the XRF data to evaluate the quality and useability of the data. BVSPC will compile, reduce and tabulate the XRF data. BVSPC will review and tabulate the GW data and the surface water and sediment data for usability. BVSPC will tabulate the data and prepare a letter memorandum presenting the data.

Sr. Eng	4	Hours
Mid. Eng	20	Hours
Jr Eng	4	Hours

8 Preliminary Design

Engineering Drawings: Assume 9 drawings for the intermittent streams and each drawing requires 2 hours Mid Engineer, 2 hours Jr. Engineer and 4 hours technician. For mine waste piles, assume 2 hours Mid Engineer, 2 hours Jr. Engineer, and 4 hours technician for each of the 6 drawings. Assume 1 hours Mid Engineer, 1 hour Jr Engineer, and 2 hours Sr. Tech hours per drawing for cover; vicinity & location map; drawing index, abbreviations, legend, & general notes; site key plan, and erosion & sediment control details (two drawings).

Task	8.1/8.2 Construction Schedule	8.3 Specs	8.4 Eng Drwgs Chat Piles	8.4 Eng Drwgs Intermittent Streams	8.5/8.6 Design Analysis	8.7 Cost Estimate	8.9 Land Acquisition/ Easements	8.10 ARARs
Sr. Eng	3	2			9	2	2	
Mid. Eng	54	28	18	18	27	10	7	10
Sr Tech	0		36	36		18		
Jr Eng/Scientist	36	14	18	18	14			
Clerical	15	8			9			

Task	Review Briefing	8.11 VE Report	QC				
Sr. Eng	7	22	7				
Mid. Eng	7	22	22				
Sr Tech	7						
Jr Eng/Scientist	0						
Clerical	0						

TASK ORDER NO: 0126 | **SITE NAME: Madison County Mines OU5 Site** | **PREPARATION DATE: September 25, 2013**
PROJECT PLAN NO: Initial | **TASK ORDER TYPE: RD**

11 *Pre-Final/Final Design Package*

Engineering Drawings: Assume 9 drawings for the intermittent streams and each drawing requires 2 hours Mid Engineer, 7 hours Jr. Engineer and 9 hours technician. For mine waste piles, assume 2 hours for mid engineer, 9 hours for technician, and 7 hours Jr. Engineer per drawing for each of the 6 drawings; Assume 1 hour Mid Engineer; 2 hours Jr. Engineer, and 4 hours Sr. Tech for cover; vicinity & location map; drawing index; abbreviations, legend, & general notes; and site key plan, and erosion & sediment control details (two drawings).

Task		11.2 Specs	11.3 Drawings Chat Piles	11.3 Drawings Intermittent Streams	11.4/11.5 Design analysis	11.6 Construct QC Plan	11.10 Cost Estimate	11.11 Review Briefing
Sr. Eng		10			1	3	1	7
Mid. Eng		90	18	18	15	11	11	7
Sr Tech			77	81			18	7
Jr Eng/Scientist		23	54	63	7	29		
Clerical		18			2	7		

Task	11.12 Bidability review	11.13 Proj Delivery Strategy	11.14 100 % design submittal	QC			
Sr. Eng	7	1	1	4			
Mid. Eng	22	7	7	29			
Sr Tech		15					
Jr Eng/Scientist		14	8				
Clerical							

12 Reuse Planning
BVSPC will provide technical support in reviewing and evaluating reuse plans and redevelopment plans submitted by others.

Mid Eng 8 Hours

TASK ORDER NO: 0126
PROJECT PLAN NO: Initial

SITE NAME: Madison County Mines OU5 Site
TASK ORDER TYPE: RD

PREPARATION DATE: September 25, 2013

13 Post Remedial Design Support

Per the scoping meeting, minimal effort will be required for the Post Remedial Design Support task.

Sr. Eng	0	Hours
Mid. Eng	8	Hours
Sr Tech	0	Hours
Jr Eng/Scientist	0	Hours
Clerical	0	Hours

14 Task Order Close Out

Sr. Eng	4	Hours
Sr Tech	4	Hours
Clerical	4	Hours

PROJECT PLAN
EPA REGION 7 AES CONTRACT EP-S7-05-06
REPORT 3 : : OTHER DIRECT COSTS (CLIN 006) DETAIL

TASK ORDER NO: 0126 **SITE NAME: Madison County Mines OU5 Site** **PREPARATION DATE: September 25, 2013**
PROJECT PLAN NO: Initial **TASK ORDER TYPE: RD**

Task No.	Task Name	Expense Type	Unit Price ($s)	Units	Cost	Notes
1	Task Name: Project Administration	Reproduction	$0.10	1,000	$100	
1	Task Name: Project Administration	Supplies	$20.00	0	$0	
1	Task Name: Project Administration	Mail	$3.00	32	$96	
1	Task Name: Project Administration	Travel			$1,218	Site visit for 3 persons
1	Task Name: Project Administration	Courier	$35.00	0	$0	
1	Task Name: Project Administration	Telephone	$4.00	48	$192	
				Subtotal Task 1	$1,606	
2	Task Name: Community Relations	Reproduction	$0.10	50	$5	
2	Task Name: Community Relations	Supplies	$20.00	0	$0	
2	Task Name: Community Relations	Mail	$3.00	12	$36	
2	Task Name: Community Relations	Courier	$35.00	0	$0	
2	Task Name: Community Relations	Telephone	$4.00	10	$40	
2	Task Name: Community Relations	Travel	$636.00	1	$636	Access Agreements
				Subtotal Task 2	$717	
3	Task Name: Field Investigation	Reproduction	$0.10	1,000	$100	
3	Task Name: Field Investigation	Supplies	$3,281.50	1	$3,282	
3	Task Name: Field Investigation	Mail	$3.00	40	$120	
3	Task Name: Field Investigation	Courier	$30.00	10	$300	
3	Task Name: Field Investigation	Telephone Service	$5.00	40	$200	
3	Task Name: Field Investigation	Drilling Subcontractor	$16,500.00	1	$16,500	Fixed Unit Pricing
3	Task Name: Field Investigation	Travel - car rental, gas, lodging, meals			$7,679	
3	Task Name: Field Investigation	XRF Rental (1 Unit)	$3,300.00	1	$3,300	1 month rental
3	Task Name: Field Investigation	Topographic Survey Subcontractor	$9,600.00	1	$9,600	Skaggs Chat Area (Lump Sum)
3	Task Name: Field Investigation	Surveying Subcontractor	$3,200.00	1	$3,200	Survey 8 GW monitoring wells
3	Task Name: Field Investigation	Test Pit Subcontractor	$4,000.00	1	$4,000	40 hours @ $100/hr
				Subtotal Task 3	$48,281	
4	Task Name: Sample Analysis	Reproduction	$0.10	0	$0	
4	Task Name: Sample Analysis	Supplies	$20.00	0	$0	
4	Task Name: Sample Analysis	Mail	$3.00	0	$0	
4	Task Name: Sample Analysis	Courier	$35.00	0	$0	
4	Task Name: Sample Analysis	Telephone	$4.00	0	$0	
				Subtotal Task 4	$0	
5	Task Name: Analytical Support/Data Validation	Reproduction	$0.10	100	$10	
5	Task Name: Analytical Support/Data Validation	Supplies	$20.00	0	$0	
5	Task Name: Analytical Support/Data Validation	Mail	$3.00	1	$3	
5	Task Name: Analytical Support/Data Validation	Courier	$35.00	0	$0	
5	Task Name: Analytical Support/Data Validation	Telephone	$4.00	2	$8	
				Subtotal Task 5	$21	
6	Task Name: Data Evaluation	Reproduction	$0.10	200	$20	
6	Task Name: Data Evaluation	Mail	$3.00	2	$6	
6	Task Name: Data Evaluation	Courier	$25.00	0	$0	
6	Task Name: Data Evaluation	Telephone	$5.00	3	$15	
				Subtotal Task 6	$41	

PROJECT PLAN
EPA REGION 7 AES CONTRACT EP-S7-05-06
REPORT 3 : : OTHER DIRECT COSTS (CLIN 006) DETAIL

TASK ORDER NO: 0126 **SITE NAME: Madison County Mines OU5 Site** **PREPARATION DATE: September 25, 2013**
PROJECT PLAN NO: Initial **TASK ORDER TYPE: RD**

Task No.	Task Name	Expense Type	Unit Price ($s)	Units	Cost	Notes
8	Task Name: Preliminary Design	Reproduction	$0.10	1,000	$100	
8	Task Name: Preliminary Design	Reproduction - 21 Dwgs	$0.15	550	$83	
8	Task Name: Preliminary Design	Courier	$30.00	1	$30	
8	Task Name: Preliminary Design	Telephone	$4.00	12	$48	
8	Task Name: Preliminary Design	Mail	$3.00	6	$18	
				Subtotal Task 8	$279	
11	Task Name: Pre-Final/Final Design Package	Reproduction	$0.10	1,500	$150	
11	Task Name: Pre-Final/Final Design Package	Reproduction - 21 Dwgs	$0.15	550	$83	
11	Task Name: Pre-Final/Final Design Package	Mail	$3.00	4	$12	
11	Task Name: Pre-Final/Final Design Package	Courier	$35.00	2	$70	
11	Task Name: Pre-Final/Final Design Package	Telephone	$4.00	10	$40	
11	Task Name: Pre-Final/Final Design Package	Travel	$0.00	0	$0	
				Subtotal Task 11	$355	
12	Task Name: Reuse Planning	Reproduction	$0.10	25	$3	
12	Task Name: Reuse Planning	Mail	$3.00	4	$12	
12	Task Name: Reuse Planning	Courier	$35.00	0	$0	
12	Task Name: Reuse Planning	Telephone	$4.00	2	$8	
				Subtotal Task 12	$23	
13	Task Name: Post Remedial Design Support	Reproduction	$0.10	200	$20	
13	Task Name: Post Remedial Design Support	Supplies	$20.00	0	$0	
13	Task Name: Post Remedial Design Support	Mail	$3.00	4	$12	
13	Task Name: Post Remedial Design Support	Courier	$35.00	0	$0	
13	Task Name: Post Remedial Design Support	Telephone	$4.00	0	$0	
				Subtotal Task 13	$32	
14	Task Name: Task Order Closeout	Reproduction	$0.10	2,000	$200	
14	Task Name: Task Order Closeout	Mail	$2.00	4	$8	
14	Task Name: Task Order Closeout	Courier	$15.00	0	$0	
14	Task Name: Task Order Closeout	Telephone	$12.00	4	$48	
14	Task Name: Task Order Closeout	Travel	$15.00	0	$0	
				Subtotal Task 14B	$256	
				TOTAL ODCs (CLIN 006) >>>	$51,609	